DOCUMENT RESUME

ED 219 502 CE 032 383

AUTHOR Johnston, Suzanne
TITLE The Use of Visual Imagery to Teach Reading Comprehension to Adult Education Students.
PUB DATE [80]
NOTE 11p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adult Basic Education; *Adult Reading Programs; *Program Effectiveness; *Reading Comprehension; Reading Improvement; *Reading Instruction; Reading Processes; Reading Skills; Remedial Reading; *Teaching Methods; *Visualization
IDENTIFIERS Oakland Adult Day and Evening School CA

ABSTRACT

A study was conducted to determine if visualization could be used as an organizational tool to help adult education students improve their reading comprehension by helping them to see the structure of what they are reading in a sort of verbal picture of organized ideas. Following a review of research, which identified five areas in which visualization has been shown to be helpful, lessons were developed and used with adult education students at the Adult Day and Evening School in Oakland, California. The lessons, which were aimed to teach visualization as an organizational strategy, were divided into two parts (main idea and comparison/contrast). The materials were arranged to provide sequential instruction moving from concrete, to pictorial, to symbolic experience, first with words and then with paragraphs. It was found that the 11 students who received training in using visualization scored better on a test of main idea and comparison/contrast than the eight students who did not receive the training; and that there was a correlation between amount of visually enriched training a student received and test results. Implications for teaching include the following: (1) teaching the concepts of main idea and comparison/contrast in a sequentially developed, horizontal set of lessons seems to be effective in helping students develop skill; and (2) students seem to respond to concrete and pictorial experiences as a basis for forming visual images and organization which can help them move on to deal with symbolic experiences successfully. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED219502

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Suzanne S. Johnston

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

THE USE OF VISUAL IMAGERY TO TEACH READING COMPREHENSION TO ADULT EDUCATION STUDENTS

By
Suzanne Johnston

Introduction

Adult Education students have often learned to identify words and know the meaning of individual words, but they have difficulty integrating the separate meanings together and evaluating the content of what is read in terms of their purposes and experience. Many poor adult readers do not organize what they read in a way that best facilitates good comprehension. A poor reader may not see reading material as being organized in any way, and gives equal importance to all sentences and ideas expressed. A good reader, on the other hand, may understand and look for the author's organization, and give emphasis to the main idea, over details which support that main idea. Visualization can be used as an organizational tool to help students improve their reading comprehension by helping them to see the structure of what they are reading in a sort of verbal picture of organized ideas. Visualization in this sense refers to forming in the mind a mental picture of the ideas presented by the author, such as main idea, supporting

CE 032 383

details etc. and using this mental picture to help understand the author's purpose and organization.

Review of the Research

A review of the research pertaining to the correlations between the imagery theories and the field of reading comprehension indicates that there are five areas within the general topic that have been studied. (1) The first area deals with imagery and its effect on concrete and abstract reading material (Beighley 1952, Gorman 1961, Paivio 1965, Cunningham 1972). All found that concrete facts were better comprehended than abstract ideas, and that it was easier to arouse a mental image for concrete words than for abstract words. (2) The second area centers around the effectiveness of imagery as a learning modality. Matz and Rohwer (1971) found in a study conducted to determine the effect of picture presentation on comprehension among students from different populations, that for the poorer readers from the lower-class population, when the story was accompanied by pictures their performance was as good as that of the better readers. Levin and others (1974) and Jorm (1977) conducted studies which supported the

importance of imagery as a learning modality. (3) The third area includes imagery effectiveness as it relates to prose learning. Koser and Natkin (1971) and Anderson and Kulhavy (1972), in working with high school or college students found that their subjects benefited more from a prose passage if they formed images as they read. (4) The fourth area concerns imagery and its relationship to the recall of passages read. Anderson and Hidde (1971) found that subjects who were given imagery instructions were able to recall more than three times as many words on a surprise test as the subjects who did not receive that instruction. This result was further born out by studies conducted by Pressley (1976) and Andre and Sola (1976) who found that imagery instructions led to a better performance in retention. (5) The fifth area centers around imagery as an organizational tool as it relates to reading comprehension. In four separate studies, Levin (1971-1972, 1972, 1973, 1973) studied the training of imagery production in children in need of an organizational framework as a reasonable strategy. Two types of readers were studied, those who lacked prerequisite skills, and those who possessed the necessary skills, but experienced comprehension problems.

Receiving visual imagery organizational strategy instruction prior to reading was effective in facilitating comprehension, particularly for those students with an adequate vocabulary. Marshall and Glock (1978-1979) found that for readers who were considered "not so fluent", the organization of the passage affected their reading comprehension. It would seem fair to conclude that imagery can be used as an effective tool in teaching reading comprehension.

Teaching the Concept

Some lessons were developed and used with Adult Education students at the Adult Day and Evening School in Oakland, California, to determine if sequentially-developed, horizontal lessons teaching visualization as an organizational strategy would enable those students to improve their reading comprehension. The lessons were divided into two parts (main idea and comparison/contrast). The materials were arranged to provide sequential instruction moving from concrete, to pictorial, to symbolic experiences, first with words and then with paragraphs.

Lessons dealing with main idea began with class inclusion exercises, followed by discussion and experiences dealing with "what is categorizing". The lessons then moved into why people categorize, categorizing as a memory tool, categorizing an object in different ways, and a discussion of form and function. In all areas, lessons were first concrete, then pictorial, then symbolic. The strategy then led into lessons developed to move into the area of reading. The first area covered was categorizing as it leads to the creation of a sentence, then into the relationship between a category and a paragraph, finding categories in reading material, breaking a category into other categories, relating categories together in larger written units than paragraphs, discussing topic sentences, being aware of paragraph patterns, and inferred main idea.

The lessons dealing with comparison/contrast skills began with horizontal reclassification, followed by a discussion of similarities and differences. Again, treatment began at the concrete level, followed by pictorial, then symbolic. The next step covered comparing and contrasting within a known category to include new items, comparing to explain new material, and visual comparisons with charts, graphs etc.

Analysis of the Data

The first null hypothesis was that there would be no significant difference on a test of main idea and comparison/contrast, between those eleven students who received training in using visualization as an organizational tool and the eight students who did not. Analysis of the data by the Mann-Whitney U Test resulted in a U score of 17. To be statistically significant at the .05 level, the U score had to be equal to, or smaller than 23. Therefore, the hypothesis was rejected.

A second null hypothesis was that there would be no significant correlation between the amount of visually enriched training a student received and the test results. The Spearman's RHO rank-order correlation co-efficient test generated a Rho value of .48 which was converted into a t value of 1.35 for the Control Group. This was not significant; no significant correlation was demonstrated between the number of days present and the gain in main idea and comparison/contrast skills of the Control Group. For the Experimental Group, the data were analyzed also according to the Spearman's RHO rank-order correlation co-efficient test. In this case, the Rho value was .77 which was converted to a t value of 3.65. With nine degrees of freedom, a t value of 3.65 has a probability value

less than .05. Inasmuch as this t value is significant, a significant correlation exists between the number of days present and the gain in main idea and comparison/ contrast skills for the Experimental Group. Therefore, the hypothesis was rejected.

Implications for Teaching

1. Teaching the concepts of main idea and comparison/ contrast in a sequentially-developed, horizontal set of lessons seems to be effective in helping students develop skill with that concept.
2. Students seem to respond to concrete and pictorial experiences as a basis for forming visual images and organization which can help them move on to deal with symbolic experiences successfully.
3. Helping students use visual imagery as an organizational tool to see the structure of what they are reading in a sort of verbal picture of organized ideas seems to be appropriate and successful when working with Adult Education students.
4. Training with visual organization is a reading strategy which can be used to help poorer readers have success in dealing with reading materials.

References

1. Anderson, Richard C. and Janet L. Hidde. "Imagery and Sentence Learning." Journal of Educational Psychology, 62, No. 6 (December 1971), 526-530.
2. Anderson, Richard and Raymond W. Kulhavy. "Imagery and Prose Learning." Journal of Educational Psychology, 63, No. 3 (June 1972), 242-243.
3. Andre, Thomas and Jan Sola. "Imagery, Verbatim and Paraphrased Questions and Retention of Meaningful Sentences." Journal of Educational Psychology, 68, No. 6 (1976), 661-669.
4. Beighley, K. C. "An Experimental Study of the Effects of Four Speech Variables on Listener Comprehension." Speech Monographs, 19 (1952), 249-258.
5. Cunningham, Donald J. "The Effects of Verbal, Imaginal, and Rote Instructional Sets on the Learning of Concrete and Abstract Sentences." Paper presented at the annual meeting of the American Educational Research Association, Chicago, April, 1972.

6. Gorman, A. M. "Recognition Memory for Nouns as a Function of Abstractness and Frequency." Journal of Experimental Psychology, 61 (1961), 23-29.

7. Jorm, Anthony F. "Effect on Word Imagery on Reading Performance as a Function of Reader Ability." Journal of Educational Psychology, 69, No. 1 (1977), 46-54.

8. Koser, Sandra G. and Gerald Natkin. The Role of Imagery Formation as a Mnemonic Device in Drawing Valid Inferences From a Prose Passage. Educational Resources Information Center, ERIC Document ED065839, Spring, 1971.

9. Levin, Joel R. "Comprehending What We Read: An Outsider Looks In." Journal of Reading Behavior, 4, No. 4 (Fall 1971-1972), 18-28.

10. Levin, Joel R. "A Comparison of Induced Imagery and Sentence Strategies in Children's Paired-Associate Learning." Journal of Educational Psychology, 64, No. 3 (1973), 306-307.

11. Levin, Joel R. "Inducing Comprehension in Poor Readers: A Test of a Recent Model." Journal of Educational Psychology, 65, No. 1 (1973), 19-24.

12. Levin, Joel R. and Patricia Divine-Hawkins. "Visual Imagery as a Prose Learning Process." Journal of Reading Behavior, 10, No. 6 (April 1974), 23-30.

13. Levin, Joel R. and others. "Individual Differences in Learning From Pictures and Words: The Development and Application of an Instrument." Journal of Educational Psychology, 66, No. 3 (1974), 296-303.

14. Marshall, Nancy and Marvin D. Glock. "Comprehension of Connected Discourses: A Study Into the Relationships Between the Structure of Text and Information Recalled." Reading Research Quarterly, 14, No. 1 (1978-79), 10-56.

15. Matz, Robert D. and William D. Rohwer Jr. "Visual Elaboration and Comprehension of Text." Paper presented at the meeting of the American Educational Research Association, New York, February, 1971.

16. Paivio, A. "Abstractness and Imagery and Meaningfulness in Paired-Associate Learning." Journal of Verbal Learning and Verbal Behavior, 4 (1965), 32-38.

17. Pressley, G. Michael. "Mental Imagery Helps Eight Year Olds Remember What They Read." Journal of Educational Psychology, 68, No. 3 (1976), 355-359.